

Remarks/Arguments

Examiner has asserted that “Applicant has not addressed the rejections of claims 1,2,4,5,8 and 9 under 35 U.S.C. 103(a) as being unpatentable over Trowbridge in view of Yang have not been addressed in the response submitted April 5, 2010.” (Office Action, page 3, item 5)

Applicant respectfully disagrees and directs Examiner’s attention to pages 7-9 of the April 5, 2010 response.

35 U.S.C. §102

Claims 1 and 6, stand rejected under 35 U.S.C. §102(b) as being anticipated by McCoy et al. (U.S. Patent No. 6,445,348), hereinafter referred to as “McCoy”.

It is respectfully asserted that McCoy fails to disclose an antenna:

“wherein the radiating element is connected to the conductive surface of the earth plane via a mast, wherein said mast is located near an edge on said conductive surface and wherein said mast is fastened to the radiating element at its point of excitation,”

as described in currently amended claim 1.

McCoy teaches that “dispersive surface antenna structures provide improved selectivity and increased control over bandwidth. Antenna structures include a wraparound piece of conductive material located perpendicular to a ground plane. Ground posts extend up from the ground base and capacitively couple to a front conductive surface of the antennas. First and second conductive back surfaces, are capacitively coupled across a gap along the back of the antennas. The size, width, and location of the gap along with the ground posts provide increased control over antenna performance.” (McCoy Abstract)

McCoy describes one embodiment of an antenna structure 300 comprising conductive surface 301, 305, 306 about a planar substrate 309, two conductive ground ports 302, RF feed 303, and a conductive ground base 304, where the conductive surfaces are situated perpendicular to the ground base 304 (McCoy, Fig. 3 and column 2, lines 54 to 65). The ground posts and conductive surfaces are not located near an edge on the ground base. Furthermore, the antenna structure 300 is neither mounted on the ground base nor connected to the ground base via a supporting mast located near an edge on the ground base.

Therefore, McCoy does not disclose a connection element, such as a mast, which connects the radiating element to the conductive surface, fulfilling the function of a ground post, which is simultaneously fastened to the radiating element at its point of excitation, fulfilling the function of the RF feed. Thus, McCoy fails to disclose an antenna “wherein the radiating element is connected to the conductive surface of the earth plane via a mast, wherein said mast is located near an edge on said conductive surface and wherein said mast is fastened to the radiating element at its point of excitation,” as described in currently amended claim 1.

In view of the above remarks, it is respectfully submitted that there is no 35 USC 112 enabling disclosure provided by McCoy which makes the present invention as claimed in currently amended claim 1 unpatentable. Since dependent claims 3-9 are dependent from allowable independent claim 1, it is submitted that they too are allowable for at least the same reasons that independent claim 1 is allowable. Thus, it is further respectfully submitted that this rejection has been satisfied and should be withdrawn.

35 U.S.C. §103

Claims 4 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McCoy (U.S. Patent No. 6,445,348).

Claim 3 stands rejected under 35 U.S.C. §103(a) as being unpatentable over McCoy (U.S. Patent No. 6,445,348), in view of Su (*Finite Ground Plane Effects on Ultra Wideband Planar Monopole Antenna*, Microwave and Optical Technology Letters, IEEE 2004).

Claim 7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over McCoy (U.S. Patent No. 6,445,348), in view of Scheppman (U.S. Patent No. 3,987,448).

It is respectfully asserted that none of McCoy, Su, or Scheppman, alone or in combination, disclose an antenna:

“wherein the radiating element is connected to the conductive surface of the earth plane via a mast, wherein said mast is located near an edge on said conductive surface and wherein said mast is fastened to the radiating element at its point of excitation,”

as described in currently amended claim 1.

Since claims 3, 4, 7 and 8 are dependent from claim 1, which should be allowable for the reasons described above, it is respectfully asserted that they to are allowable for at least the same reasons that claim 1 is allowable.

Furthermore, in Su, “[i]mpedance and radiation characteristics of an ultra-wide-band (UWB) planar monopole antenna with a finite circular ground plane are experimentally studied. The significant effects of the ground-plane size on the lower-edge frequency of the antenna’s impedance bandwidth are observed, and there exists an optimal diameter of the circular ground plane for achieving a maximum impedance bandwidth. Large ground-plane effects on the radiation pattern and antenna gain are also seen, especially for the lower

frequencies in the antenna's UWB impedance bandwidth." (Su Abstract) Like McCoy, Su fails to disclose an antenna "wherein the radiating element is connected to the conductive surface of the earth plane via a mast, wherein said mast is located near an edge on said conductive surface and wherein said mast is fastened to the radiating element at its point of excitation," as described in currently amended claim 1.

Scheppman also does not disclose, nor does the Office Action assert that it discloses, an antenna "wherein the radiating element is connected to the conductive surface of the earth plane via a mast, wherein said mast is located near an edge on said conductive surface and wherein said mast is fastened to the radiating element at its point of excitation," as described in currently amended claim 1.

In view of the above remarks, it is respectfully submitted that there is no 35 USC 112 enabling disclosure provided by McCoy, Su, or Scheppman, alone or in combination, which makes the present invention as claimed in claims 3, 4, 7, or 8 unpatentable. Thus, it is further respectfully submitted that this rejection has been satisfied and should be withdrawn.

Claims 1, 4, 5, 8 and 9, stand rejected under 35 U.S.C. §103(a) as being unpatentable over Trowbridge (U.S. Patent No. 2,604,593), in view of Yang (U.S. Patent No. 5,949,379).

It is respectfully asserted that neither Trowbridge nor Yang, alone or in combination, disclose an antenna:

“wherein the radiating element is connected to the conductive surface of the earth plane via a mast, wherein said mast is located near an edge on said conductive surface and wherein said mast is fastened to the radiating element at its point of excitation,”

as described in currently amended claim 1.

Trowbridge relates to “portable antennas for television and radio receiving apparatus.” (Trowbridge, column 1, lines 1-2) Trowbridge describes a dipole “rabbit ears” antenna with non-planar arms 17, 18 mounted on pivot elements, not a monopole antenna. (Trowbridge, Figure 1)

Trowbridge also fails to disclose an antenna with a planar radiation element vertically arranged with respect to an earth plane, or more specifically, connected near an edge on the conductive surface. The domed hollow base 9 of Trowbridge is not a conductive earth plane, and screw eye 19, 20 is not a supporting mast. (Trowbridge, Fig. 3) Thus, Trowbridge fails to disclose an antenna “wherein the radiating element is connected to the conductive surface of the earth plane via a mast, wherein said mast is located near an edge on said conductive surface and wherein said mast is fastened to the radiating element at its point of excitation,” as described in currently amended claim 1.

Yang teaches a “microwave antenna device on PCMCIA network cards for notebook computers includes; extended base, which is connected to input port of PCMCIA network card, has pivot acceptor symmetrically located on the outer side of extended base, T-shaped pivot which is capable of 180-degree rotation about the vertical axis, is then

supported by pivot acceptor. Tunnel is inside pivot and extended base, in which HF (high frequency) transmitting wire from input port passes through up to the top of pivot. Plate which is capable of 90-degree rotation in both clockwise and counter-clockwise direction is hooked up on pivot. Plate which is capable of 90-degree rotation in both clockwise and counter-clockwise direction is hooked up on pivot. Plate or bar microwave antenna is capped on pivot and connected through HF transmitting wire. In accordance with the above description, plate microwave antenna has the advantage of foldable for transportation easy to setup, receiving angle optimisable and preventing from breaking design.” (Yang Abstract)

Yang does not describe the antenna structure in detail. In particular, Yang does not describe whether the antennae shown in the Figures 3 to 10 are monopole antennas cooperating with an earth plane or dipole antennas. As a result, Yang only teaches that plate or bar microwave antennae for a PCMCIA network could be pivotably connected to the base of the network card. Thus, Yang, like Trowbridge, fails to disclose an antenna “wherein the radiating element is connected to the conductive surface of the earth plane via a mast, wherein said mast is located near an edge on said conductive surface and wherein said mast is fastened to the radiating element at its point of excitation,” as described in currently amended claim 1.

In view of the above remarks, it is respectfully submitted that there is no 35 USC 112 enabling disclosure provided by Trowbridge or Yang, which makes the present invention as claimed in currently amended claim 1 unpatentable. Since dependent claims 3-9 are dependent from allowable independent claim 1, it is submitted that they too are allowable for at least the same reasons that independent claim 1 is allowable. Thus, it is further respectfully submitted that this rejection has been satisfied and should be withdrawn.

Having fully addressed the Examiner's rejections it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's representative at (609) 734-6804, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No fee is believed due. However, if a fee is due, please charge the additional fee to Deposit Account 07-0832.

Respectfully submitted,
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